

SOUTH AFRICA WEEK 47 2021

OVERVIEW OF REPORT

This report summarises national laboratory testing for SARS-CoV-2, the virus causing COVID-19, in South Africa. This report is based on data for specimens reported up to 27 November 2021 (Week 47 of 2021).

HIGHLIGHTS

- The number of tests reported in week 47 of 2021 (n=202,816) was higher than the number of tests reported in the previous week.
- In week 47 the testing rate was highest in Gauteng (541 per 100,000 persons) and lowest in Limpopo (71 per 100,000 persons).
- In week 47 the percentage testing positive was 8.3%, which was 5.9% higher than the previous week.
- In week 47 compared to the previous week, the percentage testing positive increased in all provinces.
- The percentage testing positive in week 47 was highest in Gauteng (15.9%), followed by Limpopo (9.2%), North West (8.0%) and Mpumalanga (5.6%) provinces.

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Executive Summary:

- In the period 1 March 2020 through 27 November 2021, 19,296,990 tests for SARS-CoV-2 have been reported nationally: 16,528,140 PCR and 2,768,850 antigen tests.
- The number of tests reported in week 47 of 2021 (n=202,816: 166,267 PCR and 36,549 antigen tests) was higher than the number of tests reported in the previous week.
- Gauteng reported the largest proportion of tests (41.3%), followed by KwaZulu-Natal (17.0%) and Western Cape (15.8%).
- The overall testing rate increased from 321 per 100,000 persons in week 46 to 340 per 100,000 persons in week 47.
- · In week 47, the testing rate increased in Gauteng and the Western Cape, decreased in the Free State, Northern Cape and KwaZulu-Natal, and was similar to the previous week in all other provinces. The testing rate was highest in Gauteng (541 per 100,000 persons) and lowest in Limpopo (71 per 100,000 persons).
- The testing rate in week 47 was highest in the ≥80 years age group (651 per 100,000 persons).
- In week 47 the percentage testing positive was 8.3%, which was 5.9% higher than the previous week (P<0.001).
- In the past week, the percentage testing positive increased by 6.4 % in the public sector (2.9% in week 46 to 9.3% in week 47, P<0.001) and by 5.6% in the private sector (2.1% in week 46 to 7.7% in week 47, P<0.001).
- In week 47, compared to the previous week, the percentage testing positive increased in all provinces.
- The percentage testing positive in week 47 was highest in Gauteng (15.9%), followed by Limpopo (9.2%), North West (8.0%) and Mpumalanga (5.6%) provinces. The

- percentage testing positive was less than 5% in all other provinces.
- The highest percentage testing positive was observed in the age group 10-14 years (15.8%).
- Health sub-districts showing the highest percentage testing positive were concentrated in Gauteng (n=13) in the past week.
- Antigen tests accounted for 18.0% (36,549/ 202,816) of tests reported in week 47, however the number of antigen tests is likely underestimated due to under-reporting and delayed reporting of antigen tests.
- In week 47 the public sector accounted for 71.9% of antigen tests reported. The majority of antigen tests have been reported from KwaZulu-Natal (32.2%) and Gauteng (19.7%) provinces.
- The mean turnaround time for PCR tests reported in week 47 was 0.7 days; 1.1 days in the public sector and 0.5 days in the private sector. Turnaround times for public sector PCR tests decreased in Limpopo Province in the past week and were <2 days in all provinces.
- The mean turnaround time for antigen tests reported in week 47 was 10.6 days in the public sector and 0.1 days in the private sector.

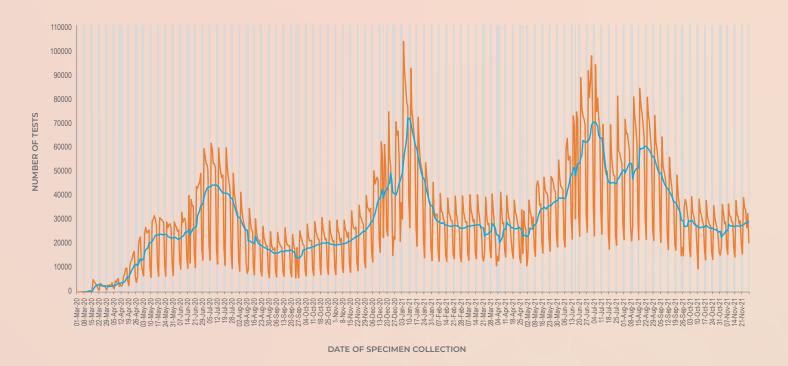


Figure 1. Number of SARS-CoV-2 tests reported by date of specimen collection, South Africa, 1 March 2020 – 27 November 2021. Blue line shows the 7-day moving average of the number of tests reported. Grey bars highlight weekend days and public holidays



Table 1. Weekly number of SARS-CoV-2 tests and positive tests reported, South Africa, 3 January – 27 November 2021

Week number	Week beginning	No. of tests n (%)	No. of positive tests	Percentage testing positive (%)
1	03-Jan-21	501286 (2.6)	151046	30.1
2	10-Jan-21	418039 (2.2)	104804	25.1
3	17-Jan-21	327468 (1.7)	63266	19.3
4	24-Jan-21	249583 (1.3)	34642	13.9
5	31-Jan-21	203723 (1.1)	22364	11.0
6	07-Feb-21	193307 (1.0)	16471	8.5
7	14-Feb-21	190665 (1.0)	12186	6.4
8	21-Feb-21	184703 (1.0)	10385	5.6
9	28-Feb-21	189707 (1.0)	8688	4.6
10	07-Mar-21	193405 (1.0)	8328	4.3
11	14-Mar-21	185517 (1.0)	8153	4.4
12	21-Mar-21	173261 (0.9)	7352	4.2
13	28-Mar-21	163955 (0.8)	7062	4.3
14	04-Apr-21	180860 (0.9)	7290	4.0
15	11-Apr-21	185318 (1.0)	8844	4.8
16	18-Apr-21	184889 (1.0)	9467	5.1
17	25-Apr-21	159995 (0.8)	9180	5.7
18	02-May-21	193914 (1.0)	13458	6.9
<u></u> 19	09-May-21	240206 (1.2)	19935	8.3
20	16-May-21	248474 (1.3)	24212	9.7
<u></u>	23-May-21	262545 (1.4)	29773	11.3
22	30-May-21	270245 (1.4)		13.4
23	06-Jun-21	337760 (1.8)		17.6
<u>25</u>	13-Jun-21	370432 (1.9)	87937	23.7
25	20-Jun-21	432025 (2.2)		27.4
<u></u>	27-Jun-21	489467 (2.5)	146529	29.9
<u>25</u> 27	04-Jul-21	443529 (2.3)	141374	31.9
	11-Jul-21	320403 (1.7)	100861	31.5
	18-Jul-21	312710 (1.6)	88338	28.2
<u></u>	25-Jul-21	350053 (1.8)	88209	25.2
<u></u>	01-Aug-21	370695 (1.9)	<u> </u>	23.7
32	08-Aug-21	357991 (1.9)	83247	23.3
33	15-Aug-21	420017 (2.2)	95200	
33 34	22-Aug-21	390189 (2.0)	78033	20.0
34 35	22-Aug-21 29-Aug-21	343479 (1.8)		
35 36		298941 (1.5)		16.0 13.0
36 37	12-Sep-21			9.3
	12-sep-21 19-sep-21	<u> </u>		<u> </u>
<u></u>				
<u></u>		204498 (1.1)	9449 6417	<u>4.6</u>
40 41	03-Oct-21 10-Oct-21	191771 (1.0)	641/ 4984	<u>3.3</u> 27
•••	15 550 21	187972 (1.0)		
42	17-Oct-21	183681 (1.0)	3390	1.8
43	24-Oct-21	173840 (0.9)	2539	1.5
44	31-Oct-21	177427 (0.9)	2001	1.1
45	07-Nov-21	190356 (1.0)	2211	1.2
46	14-Nov-21	191573 (1.0)	4691	2.4
47	21-Nov-21	202816 (1.1)	16827	8.3
	<u>Total</u>	19,296,990 (100.0)	3,157,682	16.4

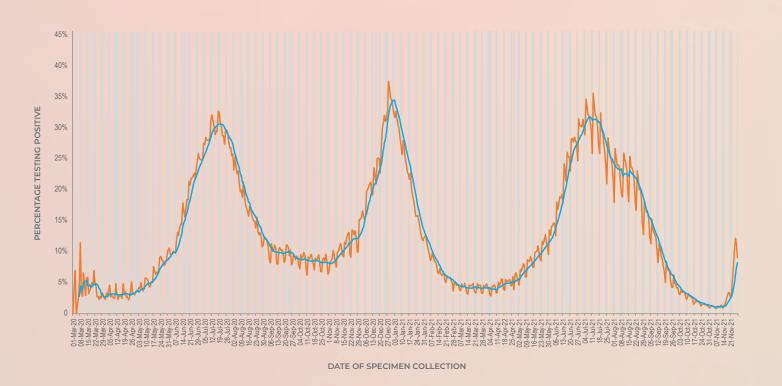


Figure 2. Percentage of tests positive for SARS-CoV-2 by date of specimen collection, South Africa, 1 March 2020 – 27 November 2021. Blue line shows the 7-day moving average of the percentage testing positive. Grey bars highlight weekend days and public holidays.

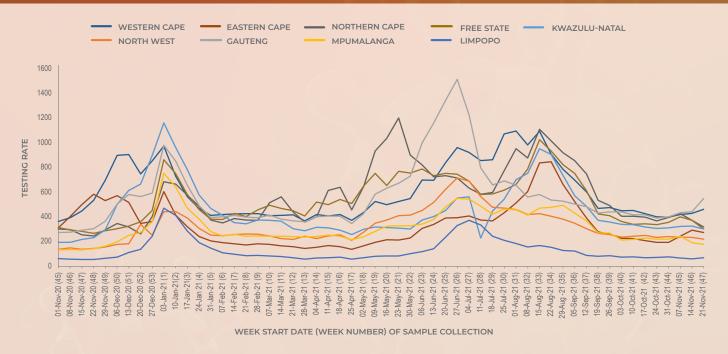


Figure 3. Testing rate per 100,000 persons by province and week of specimen collection, South Africa, 1 November 2020 – 27 November 2021

Table 2. Weekly number of tests and positive tests reported by province, South Africa, 7-27 November 2021

		7-13	Nov 2021	14-20	Nov 2021	21-27	Nov 2021		
Province	Population ^a	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	No. of tests	No. positive tests (%)	Tests per 100,000 persons	Change in percentage positive ^b
Western Cape	7005741	28944	318 (1.1)	29698	327 (1.1)	31966	779 (2.4)	456	1.3%
Eastern Cape	6734001	16301	112 (0.7)	19503	139 (0.7)	18277	185 (1.0)	271	0.3%
Northern Cape	1292786	5432	250 (4.6)	4753	165 (3.5)	4078	182 (4.5)	315	1.0%
Free State	2928903	11567	182 (1.6)	10780	123 (1.1)	8777	218 (2.5)	300	1.3%
KwaZulu-Natal	11531628	36899	309 (0.8)	37109	297 (0.8)	34463	572 (1.7)	299	0.9%
North West	4108816	9614	126 (1.3)	9513	224 (2.4)	8988	717 (8.0)	219	5.6%
Gauteng	15488137	66284	751 (1.1)	67622	3160 (4.7)	83847	13326 (15.9)	541	11.2%
Mpumalanga	4679786	11239	116 (1.0)	8914	177 (2.0)	8253	465 (5.6)	176	3.6%
Limpopo	5852553	4055	47 (1.2)	3675	79 (2.1)	4130	381 (9.2)	71	7.1%
Unknown		21	0 (0.0)	6	0 (0.0)	37	2 (5.4)		
Total	59622350	190356	2211 (1.2)	191573	4691 (2.4)	202816	16827 (8.3)	340	5.9%



Figure 4. Weekly percentage testing positive by province, South Africa, 7-27 November 2021. The horizontal blue line shows the national mean for week 47, beginning 21 November 2021

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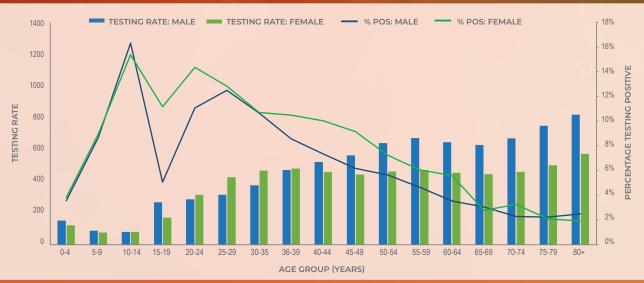


Figure 5. Testing rates per 100,000 persons and percentage testing positive by age group and sex, South Africa, week 47, 21-27 November 2021

Table 3. Health sub-districts with the highest proportion testing positive based on public and private sector data for the week of 21-27 November 2021

Health district or sub-district	Province	PTP (95% CI)	Previous week
Tshwane 5	Gauteng	0.498 (0.437-0.559)	0.284 (0.220-0.349)
Moretele	North West	0.420 (0.330-0.509)	0.280 (0.134-0.426)
Tshwane 1	Gauteng	0.356 (0.340-0.372)	0.130 (0.116-0.144)
Tshwane 7	Gauteng	0.319 (0.253-0.384)	0.108 (0.060-0.156)
Tshwane 3	Gauteng	0.289 (0.279-0.299)	0.141 (0.132-0.151)
Tshwane 2	Gauteng	0.273 (0.252-0.293)	0.096 (0.079-0.112)
Thembisile	Mpumalanga	0.251 (0.190-0.312)	0.039 (0.012-0.065)
Bela-Bela	Limpopo	0.247 (0.106-0.389)	0.055 (0.000-0.129)
Dr JS Moroka	Mpumalanga	0.239 (0.165-0.313)	0.135 (0.080-0.190)
Tshwane 6	Gauteng	0.217 (0.205-0.229)	0.091 (0.081-0.101)
Tshwane 4	Gauteng	0.215 (0.198-0.232)	0.085 (0.071-0.099)
Modimolle	Limpopo	0.208 (0.076-0.340)	
Lephalale	Limpopo	0.201 (0.166-0.236)	0.045 (0.026-0.064)
Lepele-Nkumpi	Limpopo	0.157 (0.073-0.240)	0.021 (0.000-0.063)
Midvaal	Gauteng	0.145 (0.012-0.279)	
Khâi-Ma	Northern Cape	0.139 (0.009-0.269)	0.025 (0.000-0.073)
Johannesburg A	Gauteng	0.135 (0.126-0.145)	0.036 (0.030-0.042)
Johannesburg E	Gauteng	0.133 (0.123-0.143)	0.023 (0.018-0.028)
Naledi	North West	0.132 (0.089-0.176)	
Madibeng	North West	0.131 (0.110-0.153)	0.021 (0.012-0.030)
Cape Agulhas	Western Cape	0.115 (0.000-0.239)	0.057 (0.000-0.134)
Emfuleni	Gauteng	0.114 (0.101-0.127)	0.024 (0.017-0.030)
Metsimaholo	Free State	0.108 (0.060-0.155)	0.011 (0.000-0.025)
Johannesburg F	Gauteng	0.107 (0.099-0.114)	0.019 (0.016-0.023)
Johannesburg D	Gauteng	0.104 (0.094-0.115)	0.016 (0.011-0.020)

95% CI: 95% confidence interval; PTP: adjusted positive test proportion; Elements marked in red have current week proportions testing positive that are higher than, and CIs that do not overlap with, the previous week proportions and CIs. Elements marked in the have current week proportions testing positive that are than, and CIs that do not overlap with, the previous week proportions and CIs.

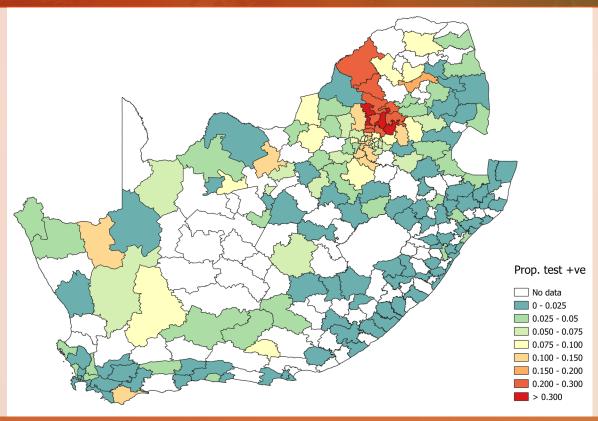


Figure 6. Proportion testing positive by health sub-district in South Africa for the week of 21-27 November 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

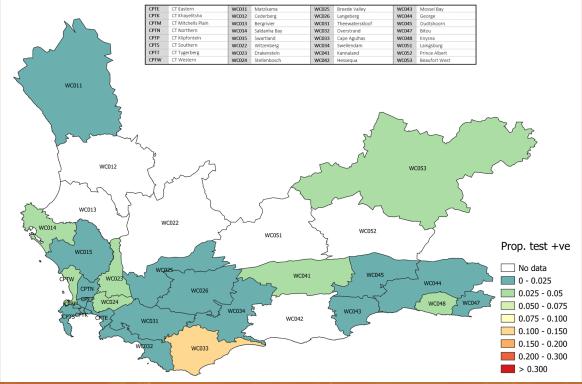


Figure 7. Proportion testing positive by health sub-district in the Western Cape Province for the week of 21-27 November 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%

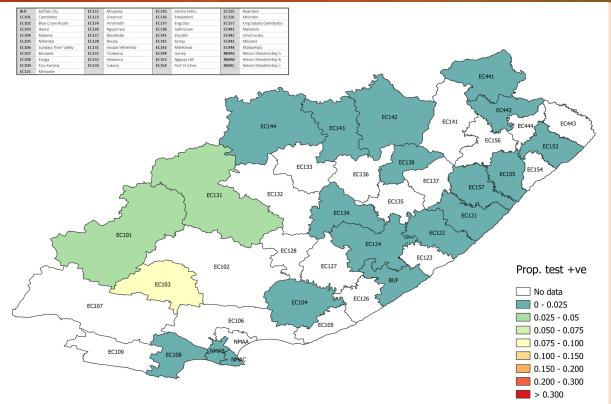


Figure 8. Proportion testing positive by health sub-district in the Eastern Cape Province for the week of 21-27 November 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

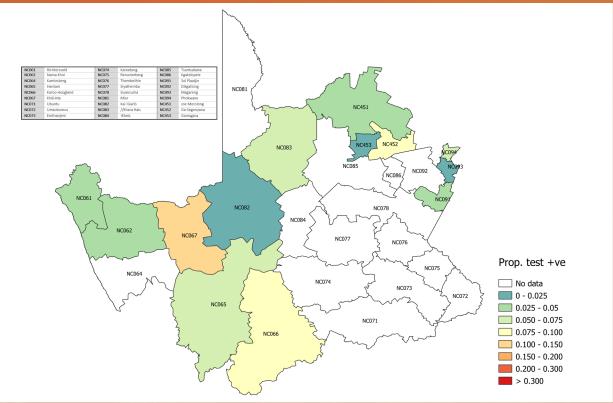


Figure 9. Proportion testing positive by health sub-district in Northern Cape Province for the week of 21-27 November 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

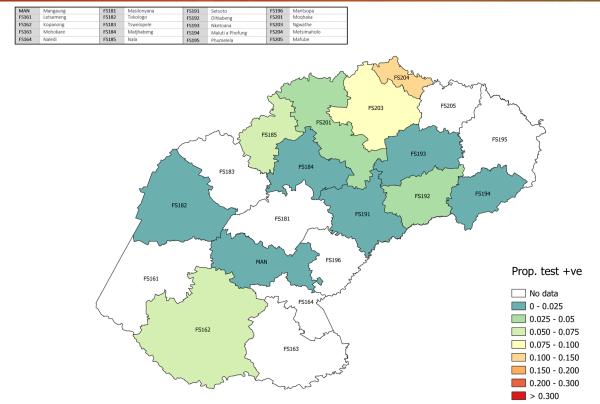


Figure 10. Proportion testing positive by health sub-district in Free State Province for the week of 21-27 November 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

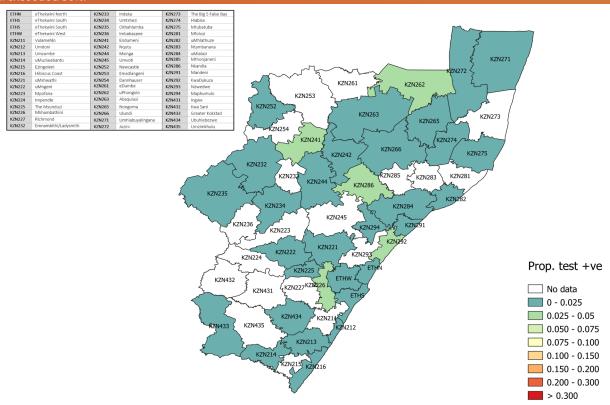


Figure 11. Proportion testing positive by health sub-district in KwaZulu-Natal Province for the week of 21-27 November 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

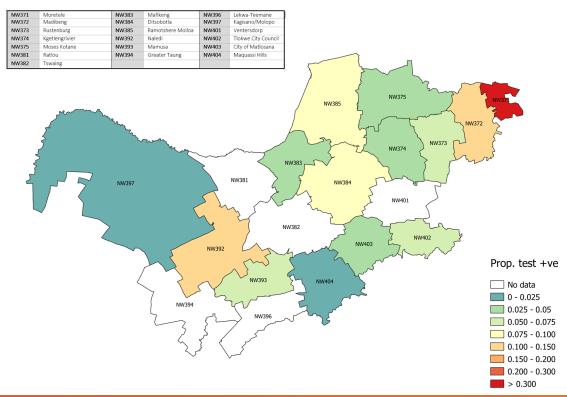


Figure 12. Proportion testing positive by health sub-district in North West Province for the week of 21-27 November 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

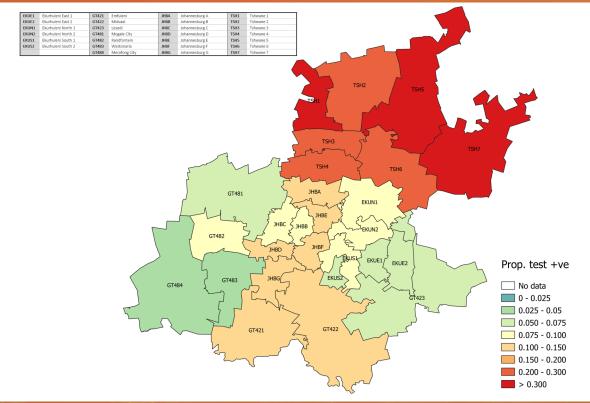


Figure 13. Proportion testing positive by health sub-district in Gauteng Province for the week of 21-27 November 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

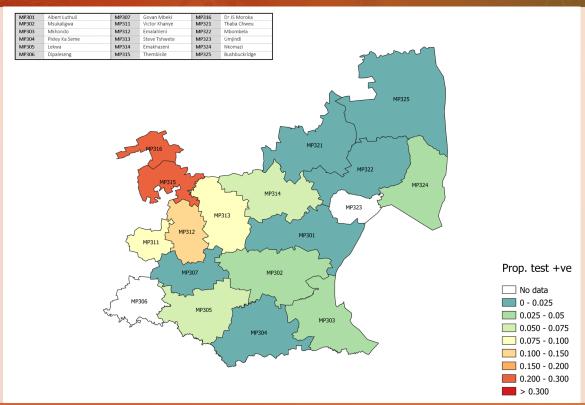


Figure 14. Proportion testing positive by health sub-district in Mpumalanga Province for the week of 21-27 November 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

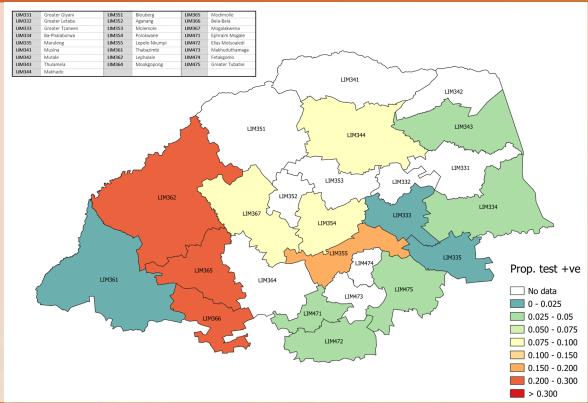


Figure 15. Proportion testing positive by health sub-district in Limpopo Province for the week of 21-27 November 2021. Areas shaded white represent districts in which either (i) no tests were reported (ii) all tests were negative or (iii) the confidence interval exceeded 30%.

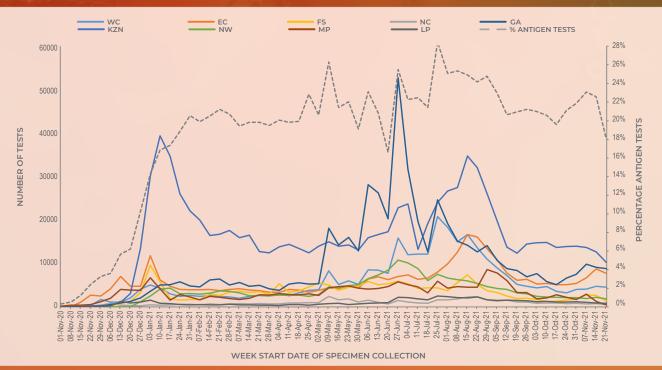


Figure 16. Number of antigen tests by province and overall percentage antigen tests, South Africa, 1 November 2020 – 27 November 2021. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GA Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

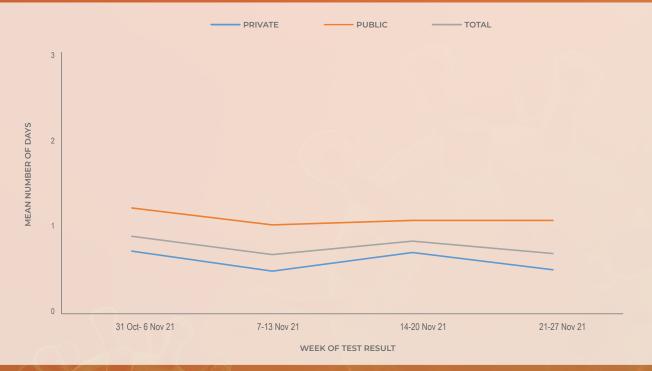


Figure 17. Mean number of days between date of specimen collection and date of test result for PCR tests by week of test result, South Africa, 31 October -27 November 2021

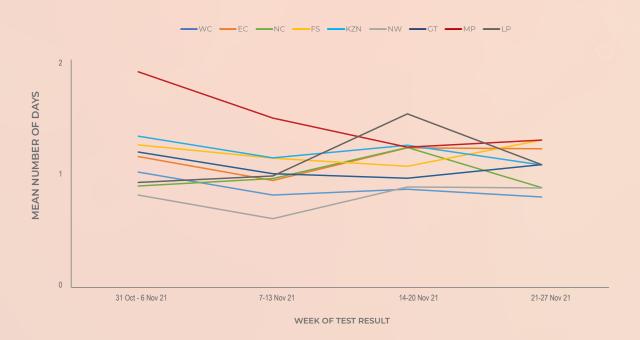


Figure 18. Mean number of days between date of specimen collection and date of test result for PCR tests in the public sector by week of test result and province, South Africa, 31 October -27 November 2021. WC Western Cape; EC Eastern Cape; FS Free State; KZN KwaZulu-Natal; GT Gauteng; NC Northern Cape; NW North West; MP Mpumalanga; LP Limpopo

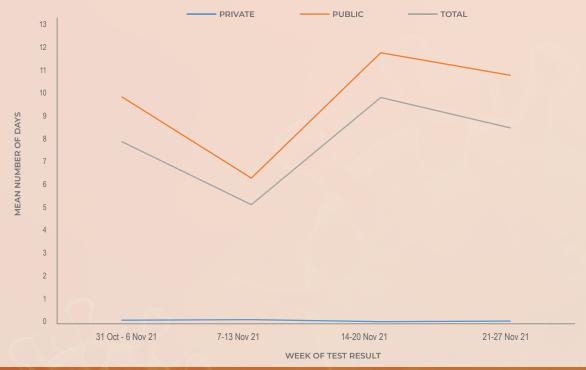


Figure 19. Mean number of days between date of specimen collection and date of test result for antigen tests by week of test result, South Africa, 31 October -27 November 2021

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Methods

Testing for SARS-CoV-2 began on 28 January 2020 at the NICD and after the first case was confirmed on 5th March 2020, testing was expanded to a larger network of private and NHLS laboratories. Laboratory testing was conducted for people meeting the case definition for persons under investigation (PUI). This definition was updated several times over the reporting period but at different times included (i) symptomatic individuals seeking testing, (ii) hospitalised individuals for whom testing was done, (iii) individuals in high-risk occupations, (iv) individuals in outbreak settings, and (v) individuals identified through community screening and testing (CST) programmes which were implemented in April 2020 and was discontinued from the week beginning 17th May. CST was implemented differently in different provinces, and ranged from mass screening approaches (including asymptomatic individuals) to screening of individuals in contact with a confirmed case to targeted testing of clusters of cases. Respiratory specimens were submitted to testing laboratories. Testing was performed using reverse transcriptase real-time PCR, which detects SARS-CoV-2 viral genetic material. Laboratories used any one of several in-house and commercial PCR assays to test for the presence of SARS-CoV-2 RNA. Testing for SARS-CoV-2 using rapid antigen-based tests was implemented towards the end of October 2020. Results of reported rapid antigen-based tests are included in this report, however data are incomplete and efforts are ongoing to improve data completeness.

Test results were automatically fed into a data warehouse after result authorisation. We excluded specimens collected outside South Africa and duplicate entries of the same test for an individual. From week 48 of 2020 onwards, test data were reported from the Notifiable Medical Conditions Surveillance System (NMCSS). Date of specimen receipt in the laboratory was used when date of specimen collection was missing. Proportion testing positive (PTP) was calculated as the number of positive tests/total number of tests and presented as percentage by multiplying with 100. We used 2020 mid-year population estimates from Statistics South Africa to calculate the testing rate, expressed

as tests per 100,000 persons. Laboratory turnaround times were calculated as the mean number of days between specimen collection and reporting of the result. Categorical variables were compared using the chi-squared test, with a P-value<0.05 considered statistically significant.

Health district and sub-district (in the metros) level results were mapped based on geo-locatable public (almost every public sector facility in the country) and private (approximately 82% of private testing facilities) sector testing facilities. Estimates of overall prevalence were derived using regression techniques. Estimates were adjusted to produce district-specific positive test prevalences based on the national average age and sex profile of testing for that week. This adjustment allows more accurate comparison of the proportion testing positive across districts. Districts with fewer than 20 tests reported during the week have been excluded from the analysis.

Limitations

- A backlog in testing of samples by laboratories affects the reported number of tests. As a result, numbers tested during this period may change in subsequent reports.
- If higher-priority specimens were tested preferentially this would likely result in an inflated proportion testing positive.
- Different and changing testing strategies (targeted vs. mass testing, PCR vs. antigenbased tests or prioritisation of severe or at-risk cases during epidemic waves) used by different provinces makes percentage testing positive and number of reported tests difficult to interpret and compare.
- Health district and sub-district level were mapped based on the testing facility and not place of residence.
- Patient admission status was categorised based on the reported patient facility and may not reflect whether the patient was actually admitted to hospital.
- Antigen tests may be underestimated as they are used in a number of different settings and results may not be reported.